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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,036	08/24/2005	Thor Inge Fossen	3211-110	4021

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ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER	
NGUYEN, CUONG H	

ART UNIT	PAPER NUMBER
3661	

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Supplement Notice of Allowability	Application No. 10/541,036	Applicant(s) FOSSEN ET AL.	
	Examiner CUONG H. NGUYEN	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the eIDS (3/30/2006)*.

2. ☒ The allowed claim(s) is/are *1-30; the formal drawings are accepted by the examiner*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

CUONG H. NGUYEN
Primary Examiner
Art Unit: 3661

DETAILED ACTION

1. This Office Action is the answer to the eIDS filed on 3/30/2006. Claims 1-30 are pending.

Priority

2. This pending application claims a priority of PCT/N03/00445 filed on 12/20/2003.

Drawings

3. Six pages of formal drawings are filed in PCT/NO2003/000445.

Examiner's amendment:

4. An examiner's amendment to the record appears below. The abstract is shortening to conform to MPEP 608.01(b) – language and format. Should the changes and additions be unacceptable to applicants, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The pending abstract would be amended as:

A system for testing a control system in a vessel, comprising: sensors on board the vessel; command input devices on board the vessel to send desired position, course, velocity; an algorithm in the control system for the computation of control signals to the vessel actuators; communication lines for sending simulated command signals from a remote test laboratory to the control system; a simulator including an algorithm for the simulation of the new dynamic state of a vessel model based on a previous state; where the communication line is arranged for sending back the new simulated state of the vessel model in the form of simulated sensor signals for continued computation to achieve

desired position, course, velocity; and where the communication line is sending the response from the control system to the remote test laboratory.

Allowable Subject Matter and Reason for Allowance

5. Independent claim 1 is allowable over closest available prior art of Gray (US Pat. 5,214,582), and Bodin et al. (US Pat. 6,847,872) because these references do not render obvious to one of ordinary skill in the art to suggest a method for testing a control system in a vessel, in which said control system comprises control and monitoring of said vessel with control signals to an actuator, comprising following sequential steps:

- acquisition in real time of sensor signals to a control system over a first sensor signal line to said control system;
- acquisition of command signals to said control system from a command input device over a second command signal line to said control system;
- computation in a control algorithm in said control system on basis of one or more of said sensor signals and said command signals, and sending of said control signals over a third signal line to said actuator characterized by disconnection of one or more of said sensor signals from one or more of said sensors or of said command signals from said control input device, so that the selected sensor signals or command signals do not flow to said control system, and replacement of one or more of said disconnected sensor signals or said command signals, with corresponding simulated sensor signals or simulated command signals that are generated in a remote test laboratory with respect to said vessel and are sent over a communication line over one or more of said signal lines to said control system;

- continued computation in said control system on basis of said real and/or said simulated sensor signals or said real and/or said command signals of control signals, and sending of said control signals over said communication line to said remote test laboratory.

6. Independent claim 18 is allowable over closest available prior art of Gray (US Pat. 5,214,582), and Bodin et al. (US Pat. 6,847,872) because these references do not render obvious to one of ordinary skill in the art to suggest a control system for testing in a vessel, comprising:

- a simulation of new sensor signals of a vessel model based on a previous state, a communication line is arranged for sending back said new simulated sensor signals of said vessel model to said control system, for continued computations using simulated values of said command signals to achieve desired position, course, velocity, and sending responses from said control system to a remote test laboratory.

The closest references are Gray (US Pat. 5,214,582), and Bodin et al. (US Pat. 6,847,872); however, these references lack an environment to practice the claimed invention: i.e., a vessel, or a ship, or a boat; arranging special sensors to obtain measured signals in this environment; and an independent remote testing laboratory as claimed is not as onboard ECM 10 in Gray's reference. Further, Gray and Bodin et al. do not provide modified simulated signals to a control system from a remote test laboratory after said laboratory receiving obtained results from a previous simulation.

7. Claims 2-17, and 19-30 are allowable because they are dependent claims of allowed claims 1, and 18.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG H. NGUYEN whose telephone number is 571-

272-6759. The examiner can normally be reached on 9:30 am - 5:30 pm.

If attempts to reach the examiner by telephone aré unsuccessful, the examiner's supervisor, THOMAS G. BLACK can be reached on 571-272-6956. The Rightfax number for the organization where this application is assigned is 571-273-6956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cuong Nguyen

CUONG H. NGUYEN
Primary Examiner
Art Unit 3661